



CHOLERA MORBUS.

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Mr. HOWARD submitted the following document, which was read, and ordered to be printed.

*The following document is the production of an Agent sent to Russia by the French Government, to investigate the Cholera.*

SUGGESTIONS ON THE INDIAN OR ASIATIC CHOLERA.

The object of the following observations, is to make known, in a popular manner, the symptoms of this dreadful scourge, and, as far as practicable, the means of preservation and treatment until medical aid can be procured. These observations were collected from the works published on this subject, and from experiments made at St. Petersburg last summer, upon more than two hundred and fifty patients, treated both at the hospital of which I have the care, and in my private practice.

The first thing to be recommended, is a consultation with the doctor who is already acquainted with all the peculiarities of our temperament and constitution, in order to modify, according to our particular case, the general means of precaution and succor. If there be rules of a universal application, there are also some which vary with the different circumstances of constitution, temper, age, and sex. In diseases less rapid in their progress, the physician can, by a repeated and more minute examination, supply what may have escaped him; but in a disease which, in consequence of the extraordinary rapidity of its progress, requires a great promptitude in the examination, and the immediate recourse to most active treatment, it is an invaluable advantage to be in the hands of a physician so familiar with the physical and moral constitution of his patient, that he can, without loss of time, indicate the best remedies.

We cannot warn too much those, who, in consequence of their want of confidence in medicine for this dreadful plague, lose often the precious moments which may secure their safety. The great mortality which has reigned everywhere during the course of the cholera, and the great diversity of remedies recommended, have given birth to those doubts; but, though it be certain that we are yet in want of a specific remedy, it is not less certain that there have been, in all places, a great number of well authenticated cures. We have been so fortunate as to cure, not only the greater number of our patients attacked in the inferior degree, but we have even succeeded in many cases, in which the malady was in so advanced a stage that the patient appeared to be too far gone to recover. Besides, it is proved by experience, that the greatest mortality has taken place wherever no re-



course has been had to medical aid, or when the remedies had been imperfectly administered.

*Ordinary course of the Asiatic Cholera.*

We may admit of three stages in this plague. The first is that of its inferior degree, of its imperfect development, or only of the *precursors*. The second embraces its ordinary development. And the third comprehends the cases, in which the most alarming symptoms of the former stage acquire the greatest degree of intensity. The first period is, unfortunately, too often neglected, at the great peril of the patient, because the symptoms are not then sufficiently alarming to give uneasiness; they are not even considered as belonging to cholera, but as the consequence of a simple gastric affection. The symptoms belonging to this first stage, are a sensation of uneasiness, either with, or without pain in the pit of the stomach, the want or loss of appetite, a great heaviness in the lower part of the abdomen, with a disposition to diarrhea or a diarrhea partly developed, and which may precede the attack for sometime; afterwards some nausea, and even sometimes slight vomiting, and weakness in the limbs, head-ache, alternate shivering, and slight heat. These symptoms are not always united; sometimes one, and sometimes the other, predominates. During the epidemic, they are found more or less in every body; they last several days, disappear and return, and often have no other effect. They must then be regarded as an imperfect development of the disease.

The second stage is that in which the malady presents itself in its most striking characteristics. Here, too, the symptoms are not always the same in all individuals; but the following are generally observed: frequent and weakening evacuations, both by vomiting and purging of aqueous liquids, greyish, like rice water, commonly untinged with bile, inodorous, and connected with some particles of mucus. At the same time, respiration becomes more and more difficult; and this state is followed by excruciating pain, stifling and constriction in the region of the heart, interrupted by sighs. In the lower part of the abdomen, the patient experiences, alternately, pains accompanied with heat; the disposition to vomit and purge augments, whilst the urine ceases entirely. Thirst becomes unquenchable, and, with it, a strongly marked desire of taking cold drink, and chiefly water, to calm the burning sensation in the pit of the stomach. Restlessness augments to such a degree, that the patient hardly remains more than a single moment in the same position. The tongue becomes flabby, large, bluish, and even blue; afterwards it grows cold, as well as the breath. The extremities likewise soon grow cold, bluish, then blue, and are wrinkled as if they had been for a long time in warm water. The patient experiences at first pains and heart burnings, to which succeed very severe cramps, chiefly in the calf of the legs, in the joints of the toes and fingers: they are afterwards felt in the thighs; in the abdomen, and in the inferior part of the stomach. The pulse lowers, and becomes almost imperceptible; the eyes are blood-shot, dim, hollow, and surrounded by a dark circle. The face, which is also blue, contracts, and expresses both the increase of weakness and of the collapse, as well as the greatest sadness, and the anguish of an imminent death. The blood drawn from the veins is black, and so thick, that it runs with great difficulty, and is cold to the touch.

The third stage is that of a new degree of intensity in all or in a part of



the symptoms detailed above, or there is a deceitful appearance of amelioration; that is, the evacuations and the cramps cease, and the patient no longer feels any pain, but the skin remains as cold as marble, the respiration becomes more and more weak, and there remains no trace of pulse.

The indications of amendment, consist in the diminishing of the cold of the body and extremities; in the reappearance of the pulse, however feeble at first; in the gradually ceasing of the alvine evacuations and vomiting, and chiefly in the reappearance of the urine.

The patient recovers sometimes very fast, that is, in the course of a few days; but very often, too, several weeks are necessary to his entire restoration. In short, it is also in that stage that the disease, by a reaction in the system, changes into a febrile malady, accompanied by a strong affection of the brains, or of the lower part of the abdomen, which, under the appearance of a nervous typhus, still presents a great deal of danger.

The progress of the Asiatic cholera is so rapid, that the fate of the patient is commonly decided in a few hours; some die after four, seven, ten, or twelve hours; it is seldom that cholera lasts more than two days.

When the means of the medical art can be administered promptly, and skilfully adapted to the peculiarity of the constitution of the patient, we may be almost sure of success. The means to be employed, must naturally vary according to the exterior circumstances which have brought on the disease, and with a due regard to the time elapsed before medical aid was procured. Generally speaking, success depends also on the age and constitution of the patient, and the intensity of the malady. Critical age with woman, serious derangement in the circulation of the blood, chiefly in the lower part of the abdomen; *Physconia* in the same cavity, and the asthma which result from them; the predisposition of the body to apoplexy; greatly increases the danger.

### *Etiology.*

Among the number of causes predisposing to the plague, we reckon the changes which happen in the bosom of the earth, or in the atmosphere, which, according to the geographical situations of different places, engenders, in the animal system, more or less disposition to diseases resembling cholera; that is, which produce in the animal body the changes named; disposition, constitution, general epidemic; the latter has reigned in all parts of European Russia, without exception; but it has been felt sooner in some places than in others. At the epoch when cholera exercised its ravages, there has been every where a time when the general morbid characteristics approached that of cholera, and produced maladies very much resembling it, though in but a feeble degree; a circumstance which took place during the autumn of 1830, and even in the spring of this year, 1831. It is that *disposition, constitution, general epidemic*, which, joined to some local circumstances, brings on, afterwards, the complete development of the *disposition, constitution, special epidemic*, or even cholera under its most formidable aspect. If, on the one hand, the geographical situation of a place has its share of influence in the epidemic; on the other, the malady is more or less characterized according to the constitution of the individual; and hence the more or less disposition, of different persons, to be attacked by the plague. Among the predisposing causes, we place critical age of women, the hemorrhoidal disposition, with serious derangement in the circulation of the blood in the portal vein; a great irritability in the lower part of



the abdomen, in persons addicted to the use of spirituous liquors; obstructions, enervation of the nervous system, in consequence of the abuse of the pleasures of Venus.

The accidental causes are: heavy cold, the dwelling in small and damp houses; moral affections, such as dread, fear, anger; indigestion, the use of food producing flatulence, cold and raw vegetables, acid and foaming drinks, drunkenness, the want of a sufficiency of food, or the bad quality of it.

As to what constitutes the essential principle of the Asiatic cholera, we must confess that we have, as yet, as little knowledge as of any other miasmatic or contagious disease. It probably consists in an imponderable fluid, like magnetism, galvanism, electricity, whose positive strength is recognized by our senses alone, and that of cholera, on the human body, is, unfortunately, but too striking; for the whole of the nervous system, and chiefly the ganglionic system of the lower part of the abdomen, as well as the sanguineous system, are strongly affected by it; the latter is altered in its chemical properties, and, of course, organically. Experience and ulterior observations, will, perhaps, decide which of the systems suffers first.

It would, perhaps, be here the proper place to discuss the question of the contagion, or non-contagion of the cholera; but it is far from being settled, and I will only state, that, before the plague broke out at St. Petersburg, I myself admitted that it was contagious; but that, afterwards, experience and my observations, have produced in me such a conviction, that I found myself obliged to adopt the contrary opinion.

#### *Preservatory means.*

We must carefully avoid taking cold, and, for that purpose, dress more warmly even in summer. It is advisable to wear a wide flannel, or raw silk belt, in contact with the skin.

If we cannot avoid going out in the damp and cold air of the night, we must dress still warmer.

The pure air of the country, cannot be too much recommended in summer: and, at all seasons, the atmosphere of dwellings, and chiefly that of the bed chamber, ought to be renewed as often as possible, and purified with vinegar, evaporated by means of towels dipped in it, and exposed to heat. A little chloride of lime, mixed with sand in equal parts, and spread out in dishes, will answer the same purpose. We must also avoid lodging too many people in the same room; and it is scarcely necessary to add, that we must observe the greatest cleanliness.

Experience proves that, in all epidemic, miasmatic, or contagious diseases, the timid are the first victims; the same is the case in cholera. Fear, sorrow, anger, predispose to the malady, and give it a fatal turn: a full confidence in God, and an entire submission to his will, courage, fortitude—such are the best preservatives against this plague.

Those who live temperately have no need of any great changes in their diet. They may eat of pearl barley, rice, sago, oatmeal, gruel, soups, as well as of the most digestive fish soups; but they must avoid eating of soups which have been made with many vegetables, and chiefly with cabbage.

Beef, veal, mutton, chicken, and game, boiled or roasted, may be recommended; but we must, by all means, abstain from eating bacon, geese, and ducks.

Fish of easy digestion, such as perch, carp, &c. may be recommended,



provided they be quite fresh, and stewed with a very little butter, and seasoned only with salt. Sauce, in which there is a great deal of cream is hurtful. Fish of difficult digestion, such as salmon, either fresh or smoked, eel, &c., and in general all smoked and dried fish, with the exception of herring, are to be avoided. The free use of herring may be permitted to those who are accustomed to salt food.

Those who are disposed to diarrhea, or flatulence, must entirely abstain from eating vegetables; and even those who are less liable to diarrhea and flatulence, must be very cautious in the choice of vegetables: they ought not only to be quite fresh, but of easy digestion, such as spinage, asparagus, green beans, and even young peas, boiled in broth, and without cream. They may also eat potatoes, not too young, nor too fresh. All kind of vegetables producing flatulence, such as dried peas and beans, every species of cabbage, and chiefly saurkraut, must be carefully avoided.

All salads, either with or without vinegar, or sour cream, as well as cucumbers, summer and winter radishes, onions of all kinds, and all kinds of mushrooms, are to be avoided.

Abstain from eating fruit. Those who have not experienced the influence of the epidemic may eat strawberries, provided they take them in small quantities with wine, and not with cream, after dinner, and never at breakfast.

Soft boiled fresh eggs may be recommended.

Farinaceous or mealy food, such as rice, oatmeal, and sago boiled in broth, water or milk, are of easy digestion, and constitute, as I have said before, good nourishment; but heavy farinaceous food, such as dumplings, puddings, pastry of all kinds, and even rye bread, &c. must be avoided. Sweet meats, and chiefly ice creams, are very injurious.

New milk and boiled milk may be recommended, except to the small number of persons who cannot digest it; but cold milk, and chiefly sour and curdled milk, must be avoided.

Crabs and cheese cannot be eaten with impunity.

Coffee and tea may be taken, even with a little cream, by those who are not much affected with flatulence; but they will do well to add a little port or Madeira wine.

We must avoid fermented drinks, except strong beer, from which, however, the foam must have been previously taken off; but this drink, too, recommends itself only to those who are in the habit of drinking it; in case of diarrhea, it must be given up.

Good wine, taken in a small quantity, has a good effect; but it is well ascertained that the least excess of any kind, particularly disposes to cholera. The wines of warm climates, such as port, Madeira, Malaga, &c. taken in very small quantities, chiefly in the morning before going out, are wholesome, and much to be preferred to the more acid wines of France and of the Rhine. We must, however, recommend much precaution to ladies who are not in the habit of taking wine, in order that its use may not have an injurious influence over their health.

Acid drinks, such as lemonade, &c. are hurtful; even water must be taken only when freshly drawn, and not too cold, but taking care to mix with it a little wine.

I think it proper to state here that, during the whole reign of the epidemic, and, above all, while it rages in its full strength, it is indispensable



carefully to abstain from the pleasures of hymen; all imprudence of this kind, chiefly if repeated, particularly disposes to the plague.

*Treatment of the Asiatic Cholera.*

There is no disease in which the same treatment will apply to all possible cases; on the contrary, we must always take into consideration the constitution of the patient and the stage of the disease; and just so it is with respect to the treatment of cholera. Let it not be thought, that, in this malady, it is sufficient, as it is in many others, to administer remedies internally; on the contrary, these remedies have produced comparatively but little effect; whilst assiduous care, combined with exterior applications faithfully persevered in, have succeeded in restoring patients laboring under very severe attacks.

The treatment which I have followed, as well as many of my colleagues, and from which we have obtained the greatest success in the first stage or degree of the malady, and which has produced four times upon myself the most salutary effect during the course of the epidemic, was the following: As soon as the first symptoms indicated appear, that is, loss of appetite, flatulent noise in the lower part of the abdomen, even vertigo and anguish, accompanied by nausea and diarrhea, we must go to bed, and take immediately a cup of strong coffee without milk, with or without sugar; and, soon after, from four to six drops of oil of peppermint upon a piece of sugar: we must apply, at the same time, a bag filled with oats, ashes or bran, very warm, upon the abdomen, changing it as often as possible, and keeping ourselves quite warmly covered. We may repeat the same means, until we have succeeded in bringing on a very copious perspiration, which, when it can be produced, brings at once the attack to a favorable crisis. If, however, much head-ache, and a severe pain in the pit of the stomach should be experienced, and should not yield to a large mustard plaster applied to it, bleeding, to the amount of a pint, or even a pint and a half, becomes indispensable, and must even precede all other remedies, if the constitution of the patient be strong and sanguine; even the most debilitated ought not to apprehend any ill consequences from bleeding if the symptoms above detailed are strongly marked, for their debility is deceitful, and will cease as soon as they are delivered from the blood which was stagnant, or had not a sufficiently free circulation.

It is still more important to send the patient to bed if he has the diarrhea, for many people have experienced the full development of cholera, and even have died, for having, in the beginning, refused to take their bed for a simple diarrhea. I have often cured by mere repose, and the warmth of the bed, a diarrhea which would have certainly degenerated into cholera. I did not even permit my patients to rise from their beds for the purpose evacuation, but they made use of bed pans.

For diet, chicken broth, with a little rice or sago boiled 4 or 5 hours, to which we may add a little red wine. A decoction of salep, in the juice of the black muscade grape, is likewise to be recommended. The drink must consist of rice water, or toast-water, with a little red wine.

If the oil of peppermint, the tea of melissa, the ipecacuanha administered every three hours in small doses of one-tenth of a grain, and the warm bags, do not stop the diarrhea, it becomes necessary to apply mustard plasters upon the whole surface of the abdomen; and, if we should not thus



succeed in overcoming the disposition to vomit, we may give soda powders composed of acidulated carbonate of soda, 10 grains; essential salt of tartar, 6 or 8 grains. and of elio-sachar-citri, 10 grains; swallowing, immediately after, a tea-spoonful of lemon-juice, with a little water. In such cases, I have often arrested the progress of cholera by means of emetics and castor oil, the only purgative I have used during the epidemic. I have not been less fortunate in cases of diarrhea.

In the second stage, in which medical aid is certainly very important, nothing however ought to be done with precipitation. We must never forget that the first thing to be attended to, is to restore the blood to its circulation and organical warmth. In the greater number of cases, we begin the treatment, by applying to the whole surface of the abdomen a large mustard plaster, which must cover the pit of the stomach. If, however, the patient is too irritable, the mustard plaster may be divided, and a number of small plasters applied in different places, one after another, though, to speak the truth, this last method is not so active and effectual as the former. Frictions must be instituted over the whole body of the patient, and that is best done by four persons rubbing all at once, with dry flannel, powdered over with mustard. I have always observed, that frictions made with spirituous liquors, were much less effectual, inasmuch as the body grew cold as soon as they ceased rubbing it. The same has been observed by many of my colleagues. For the parts of the body in which the cramps became too severe, I made use of a mixture of oil of turpentine, three ounces; with oil of tusquiam, a half an ounce; oil of gilliflower, three ounces and a half; spirits of sal ammoniac, from half an ounce to six drachms—oil preserving the heat of the body much better than spirituous liquors.

This treatment is followed by mustard plasters on the calf of the legs, the thighs, the soles of the feet, the arms, the spine, either alternately, or even all at once, according to the urgency of the case.

We have been taught by experience, that baths of all kinds, including vapour baths with vinegar and water, not only remained without effect, but even give great pain to the patient, who is exposed to take cold. If bathing was so effectual at Moscow, we must attribute it to the season; for the plague broke out in that capital in the month of October, and lasted the whole winter; in consequence of which, the patients were carried to the hospitals half frozen.

It has been equally impossible for us to follow the internal treatment prescribed either by the English physicians, or by those of Moscow; that is, we could use opium only with the greatest circumspection, for that active remedy has unfortunately produced, too often, congestions of the brain so intense that nothing could calm them; and that, too, without arresting the progress of the malady. I can say the same of calomel administered in large doses: the use of the latter has been almost entirely rejected.

I have been more fortunate in the use of bismuth powders, recommended by Dr. Leo of Warsaw, and taken every two hours in doses of three or four grains, with ten grains of sugar, though this remedy has not always answered my expectations. Much more favorable results were obtained from a remedy truly Russian, and which has been lately recommended by Dr. Searle of England, who practiced at Warsaw during the epidemic. This remedy has been, for very many years, used by the Russians in affections analogous to cholera, but much less intense; it consists in a solution of common salt, two table-spoonful of which must be dissolved in a glass of



boiling water, strained, and taken in one draught, while yet lukewarm; it is thrown up in a very few minutes, and in the greater number of cases, it is already mixed with a little bile; which circumstance is a favorable one, since it proves that the spasm of the biliary ducts has diminished. One tablespoonful of the same solution is afterwards given every hour; this dose is taken cold; and is followed by a smaller dose still; that is, by a tea-spoonful, taken at a time, until all alarming symptoms have subsided. It has also frequently happened, and that even in very severe attacks, that the first dose was sufficient. At other times, namely, when there was no bile mixed with the water thrown up, I have been obliged to make a venesection for the purpose of taking six or eight ounces of blood; and, when the blood would not run, I applied leeches to the pit of the stomach, or drew blood from it by cupping, and thus relieved the patients of a burning sensation, and of the fatigue of frequent vomiting,

The patients treated in this manner, that is, with a solution of common salt, were often very soon restored to health, and could hardly be recognized after a few hours. In a few cases, the disease took the character of a congestive typhus, but not very intense. In a very few cases, I have been obliged to discontinue the solution of common salt to give the bismuth in the above indicated doses, or camphor dissolved in ether, or mixed with the tincture of canella, or any kind of aromatic water, to which should be added a mucilage of gum-arabic and sugar. Such are the remedies which have best succeeded. As soon as the cholera assumed the character of a typhus fever, I applied leeches behind the ears or on the neck, and cold water and even ice on the head, blisters on the neck and calf of the legs; prescribed castor oil when it became necessary, and chiefly oxygenated muriatic acid, taken in doses of a half an ounce, or even an ounce, upon six ounces of decoction of salep or marsh-mallow.

With respect to drink, I consulted the patient's own wishes, not, however, before he had thrown up the solution of salt. The best drink, however, was cold water often repeated, but in small quantities; I observed that the patients always ejected warm drinks. I have even given ice broken in small pieces, and recommending that only a part of it should be swallowed, and the other suffered to melt in the mouth.

In the third stage, which is that of paralysis, there is hardly any remedy. Emetics, phosphorated ether, that is, two grains of phosphorus and two drachms of ether, well shaken together, or, what is still better, a solution of six grains of phosphorus in a half ounce of oil of sweet almonds, and taken every half an hour in doses of ten drops, upon the same quantity of ether as recommended by the physicians of Moscow. The whole class of excitants, such as the spirits of hartshorn, camphor, musk, Champaign wine, sulphate of quinine, &c. administered in the supposition of an intermittent fever; frictions, mustard plasters, baths, pumping of cold water upon the pit of the stomach and spine; commonly produced no other effect than to prolong, sometimes, the sufferings of the patient. If, however, we should observe some favorable symptoms, it becomes essential to avoid a too active internal treatment.

The faculty does not recognize any predominant remedy, nor any one very remarkable for success in particular cases; a circumstance which may be attributed to the rapidity of the progress, and the malignant character of the epidemic. It is probable that cholera, like all other epidemic diseases, such as small pox, scarlet fever, &c. is, perhaps, of different characters, more



or less malignant. They may also account for certain remedies, such as bismuth, having proved sometimes so effectual.

*Additional reflections upon the use of bleeding, and of opium, in the treatment of Cholera.*

I have adopted bleeding only with the young and plethoric patients, and that at the very beginning of the attack, in case of severe pain, or when the above indicated remedies for the first stage have not had the desired effect; it is then that bleeding was so effectual, that no other remedy could be substituted for it. The object of bleeding is to diminish that part of the blood, which, through the influence of miasm, is disposed to stagnate in the interior part of the body. By means of bleeding, we prevent, or at least diminish, the spasm, as well as the venous congestion which results from it; and by that means relieve the heart and lungs from all oppression, in order to restore to them the full power of their respective functions. We can obtain that result only in the two first stages of the malady; that is, before circulation has ceased in the articulations of the hands. In cases requiring bleeding, it is, consequently, of the greatest importance to bleed as soon as possible, for the blood sensibly alters in its chemical nature, and no longer runs from the vein, or, if it does, it is with great difficulty, and in so small a quantity as renders it inadequate to the relief of the patient. When the disease is too far advanced, bleeding has sometimes hastened death.

The nature of the epidemic at St. Petersburg convinced me of the impossibility of following the method of the English physicians, who, in India, bleed to the amount of more, and much more, than a pound of blood. I have always confined myself to ten, eight, or six ounces.

The use of opium, so much extolled by English physicians in India, and by them prescribed in large doses, has as little succeeded in my practice as in that of my colleagues. It has, on the contrary, according to all our observations, served only, as said before, to determine the blood towards the brain, and to render the state of stupor and somnolence much more difficult to overcome, than when we made no use of that remedy; hence, I soon gave it up almost entirely. What has led me to the adoption of that plan, is, that vomiting and diarrhoea are only symptoms, which, in the more severe attacks, are not the most prominent; it even very frequently happens, that these symptoms are hardly perceptible: and, as we cannot admit that the individual attacked with cholera, dies solely of starvation caused by vomiting and diarrhoea, but in consequence of the paralysis of the nervous system, chiefly that of the lower part of the abdomen, or ganglionic system, and of the chemical and organical decomposition of the blood, we may easily conclude that opium cannot be a universal remedy for cholera.

The brilliant success mentioned by English physicians has been of very rare occurrence, and due only to the very large doses which they have had the courage, or rather the temerity, to administer. The ordinary doses, as we have had occasion to observe in our experiments at St. Petersburg, have been very generally injurious; for they are not active enough in the beginning, and paralyze, in their secondary effect, very visibly and strongly, all the functions of the patient: they contribute very much to the complete development of somnolence, which is sometimes consequent to cholera; but then it is less strong, and can be soon removed, if no opium has been administered.

PERRON.



